

Claims:

1. A water boiler system for producing an output of hot water or steam, said system comprising a boiler for containing a body of water to be heated,
a heating means for heating the body of water in the boiler,
an outlet conduit in which hot water or steam evolving from the body of water is dischargable from the boiler,
a supply conduit through which supply water can be added to the system,
a device associated with the supply conduit for exposing supply water passing through the supply conduit to oscillating electromagnetic flux to induce the formation of particulates in the supply water,
the boiler having a bottom portion to which particulates in the body of water tend to settle by gravity,
means for continuously draining water with settled particulates from the bottom portion of the boiler structure,
and means for continuously mechanically separating the drained water with settled particulates into separated particulates and cleansed water,
and means for continuously returning the cleansed water to the boiler structure.
2. A water boiler system as defined in claim 1, wherein said system further includes a means for periodically purging the separated particles from the mechanical separator.
3. A water boiler system as defined in claim 1, wherein the cleansed water from the mechanical separator is returned to the bottom portion of the boiler structure.
4. A water boiler system as defined in claim 1, wherein said boiler structure includes a firetube boiler.
5. A water boiler system as defined in claim 4, wherein said cleansed water is returned to the bottom portion of the firetube boiler.
6. A water boiler system as defined in claim 1, wherein said boiler structure includes a watertube boiler.

7. A water boiler system as defined in claim 6, wherein said watertube boiler includes an upper steam drum and a lower mud drum, and said cleansed water is returned to the steam drum of the watertube boiler.
8. A water boiler system as defined in claim 1, wherein said device for exposing supply water passing through the supply conduit to oscillating electromagnetic flux is one whereby the electromagnetic flux is applied to the water in the form of repetitive bursts of ringing electromagnetic flux.
9. A water boiler system as defined in claim 8, wherein said device for exposing the supply water passing through the supply conduit to oscillating electromagnetic flux is one such as disclosed in claimed in U.S. Patent No. 6,063,267.
10. A hot water boiler system as defined in claim 1, wherein a supply conduit is conditioned to add the supply water to the system by introducing the supply water directly to the body of water contained by the boiler structure.
11. A water boiler system as defined in claim 1, wherein the supply conduit is designed to add the supply water to the system by introducing a supply water directly to the separator means along with the drained water with settled particulates.
12. A water boiler system as defined in claim 2, wherein said means for periodically purging the separated particles from the mechanical separator includes a timer controlled valve.